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THE JOURNAL OF THE FLORIDA MEDICAL ASSOCIATION
PUBLISHED MONTHLY

Volume IV | St. Augustine and Jacksonville, Florida, January, 1918 | Number 7

ORIGINAL ARTICLES

THE ANATOMY OF THE BLADDER.*

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In a symposium for the discussion of cystitis it is well to begin at the beginning and review the anatomy of the bladder and adnexa. The bladder is the reservoir for the urine. It is essentially a musculo-membranous sac situated behind the pubes, and in front of the rectum in the male, the uterus and vagina intervening between it and that intestine in the female. It is important to remember that the position, shape and relations are greatly influenced by age, sex and the degree of distention of the organ. In infancy it is conical and projects above the upper border of the pubic bone into the hypogastric region. In the adult, when it is quite empty and contracted, it is a small triangular sac, placed deeply in the pelvis, its apex reaching as high as the upper border of the symphysis pubis. When slightly distended, it is rounded in form and still within the pelvic cavity; and when greatly distended, it is ovoid in shape and, rising into the abdominal cavity, often extends nearly as high as the umbilicus. The bladder is longer in the vertical diameter than from side to side. It is more convex behind than in front. In the female it is larger in the transverse than in the verticle diameter. It is somewhat of a question as to the comparative size of the male and female bladder. The bladder is divided into summit, body, base and neck. The summit is the apex and is rounded, directed forwards and upwards; it is connected with the umbilicus by a fibro-muscular cord, the urachus. The summit behind the urachus is covered with peritoneum while the portion in front of the urachus has no peritoneal covering, but rests against the abdominal wall. The urachus is the obliterated remains of a tubal canal which exists in the embryo and connects the cavity of the bladder with a sac external to the abdomen, opposite the umbilicus which is called the allantois.

In the infant at birth the urachus is occasionally found pervious, so that the urine escapes at the umbilicus, and calculi have been found in the canal. The body of the bladder is not covered in front by peritoneum, but is in relation with the triangular ligament, the posterior surface of the symphysis pubis, the internal obturator muscles and when distended, with the abdominal parietes. The posterior surface is covered with peritoneum. It corresponds in the male, with the rectum; in the female, with the uterus, some convolutions of the small intestines being interposed. The side of the bladder is crossed obliquely from below, upward and forward, by the obliterated hypogastric artery; above and behind this cord the bladder is covered by peritoneum, but below and in front of it this covering is wanting, and it is connected to the pelvic fascia. The vas deferens passes in an arched direction along the sides of the bladder at the inner side of the ureter. The fundus or base of the bladder is directed downwards and backwards. In the male it rests upon the second portion of the rectum. In the female the base lies in contact with the lower part of the cervix uteri, is adherent to the anterior wall of the vagina, it is separated from the upper part of the anterior cervix by a fold of peritoneum. The neck of the bladder is the point of commencement of the urethra, it is not tapering but suddenly con-

*Read before the Volusia County Medical Society at Daytona, October, 1917.

tracts to the opening of the urethra. In the male its direction is oblique in the erect posture and is surrounded by the prostate gland. In the female its direction is obliquely downwards and forward.

The bladder is retained in place by ligaments which are divided into true and false. The true ligaments are five in number: two anterior, two lateral and the urachus. The false ligaments are the five formed by folds of the peritoneum. The *anterior ligaments* (pubo-prostatic) extend from the back of the pubic bone on each side of the symphsis, to the front of the neck of the bladder, over the upper surface of the prostate gland. The lateral ligaments from the recto-vesical fascia are broader and thinner than the anterior ligaments. They are attached to the sides and base of the bladder and to sides of the prostate. The urachus we have mentioned is broad below and is narrower as it ascends.

The false ligaments are two posterior, two lateral and one superior. The two posterior pass forward, in the male from the sides of the rectum; in the female from the sides of the uterus to the posterior and lateral aspect of the bladder; here they contain the obliterated hypogastric arteries and the ureters, together with vessels and nerves.

The two lateral ligaments are reflections of the peritoneum from the illiac fossæ to the sides of the bladder. The superior ligament is a prominent fold of the peritoneum extending from the summit of the bladder to the umbilicus. It covers the urachus and the obliterated hypogastric arteries. The coats of the urinary bladder will be discussed under the histology of this organ.

TREATMENT OF THE CYSTITIS OF THE AGED.*

JOHN REEVE, M. D.,

DeLand, Fla.

The stigmata, or marks, of degeneration in the physical system are generally well marked.

We have webbed fingers, webbed toes, cleft-palate and harelip, and Darwin says that the vermiform appendix is a sign of degeneracy and that it is merely a rudimentary tail. If this is so, it would save us a great amount of trouble if it were on the outside where tails usually are.

A number of years ago the thyroid and prostate glands were in the same category, but when it was discovered that they both had functions, they naturally dropped out.

We do not know the cause of prostatic hypertrophy, but we do know that its presence interferes with a function of most vital importance. The same may be said of thyroid hypertrophy.

Hypertrophy of the prostate gland is usually the first etiological factor in the disease we are about to consider, "Cystitis of the Aged." It usually occurs in men at, or about, fifty, occasionally before, but it is generally considered a disease of comparatively old age. It is a gradual, painless enlargement, and may have attained quite a size without the knowledge of the patient, early symptoms being obscure or absent.

What he notices first is a desire to empty his bladder two or three times during the night. During the day, he notices that he has to urinate oftener than usual, and also that, at times, the call is urgent and imperative. He also becomes conscious of the fact that the stream does not start promptly, has lost its projectile force and power, and after a time will drop straight down between his feet. He may, and possibly does, think that these abnormalities are perquisites peculiar to his time of life, with which he would willingly dispense.

This is the first stage of hypertrophy, but ordinarily we have no cystitis at this time.

The second stage is about the same as the first, only the symptoms are more pronounced, and, in addition, we have what is called residual urine, which means that notwithstanding the numerous attempts, the bladder is never entirely emptied, and the retained urine, gradually increasing from

*Read before the Volusia County Medical Society at Daytona, October, 1917.

day to day, becomes the second etiological factor of cystitis, which, however, may not yet be present.

In what is called the third stage of hypertrophy, from various causes, we may have retention, sudden and complete, and it is usually this retention and the means used to relieve it which are the exciting causes producing cystitis.

Of course we may, and do, have retention which is relieved by the catheter, two or three times a day in skilled hands, for an indefinite period, with satisfaction and comfort, but sooner or later the catheter gets into the hands of the patient and then the symptoms change, and we have cystitis with its three most prominent symptoms—painful urination, or attempts at it, with tenesmus and straining.

What can we do for this condition?

Empty the bladder at once, and examine carefully what you get, its quantity, its color, reaction and specific gravity; notice if it contains pus or blood or albumin; think of the possibility of stone, and prescribe for what you find.

Perfect rest is imperative. Moist heat to the region of bladder is useful, if there is much pain with tenesmus. Codeine in half-grain doses three or four times a day or more, or hyposcyamus in some form is indicated. If the urine is too acid, give water in abundance with citrate or acetate of potash. If it is alkaline and ammoniacal, as it surely will be at times from the action of bacteria on the urea, benzoic acid, benzoate of sodium, formin, or sandal oil is used.

For irrigation, I have had much satisfaction from the use of a warm solution of boric acid, weak solutions of permanganate of potash are also much used; but don't do too much; there is always a tendency in that direction.

It is well to remember that in case of retention, where there is urgency, and a catheter cannot be passed, we can aspirate above the pubes into a full bladder with perfect safety, and as often as we please, with proper precautions.

Also that where a catheter can be passed, it may be tied in and left a reasonable time, in order to rest the bladder and thoroughly drain it. Not every patient can tolerate this, however.

The kind of catheters used is a point for consideration. A soft rubber catheter, a little longer than usual, will, under ordinary circumstances, meet all indications. If more power is needed, a silk woven catheter with the coudé tip may be tried, or the different sizes of the same make of catheter without the coudé, or the hard rubber variety, with or without the wire. But whatever form of catheter is used, the utmost patience and gentleness should be observed under all circumstances.

Treatment of this kind is only palliative, however, in this form of cystitis, because it does not remove the cause.

The predisposing cause is prostatic hypertrophy. The exciting cause is the catheter.

The operation for the removal or enucleation of the prostate — prostatectomy — had, for a number of years, a bad record, fifty per cent mortality made it almost prohibitory; but now, by improved technic, this has been reduced to five per cent, and one operator, who makes a specialty of it, publishes a list of one hundred and twenty-eight cases without a death. This, then is the scientific way of treating this disease, by removing the cause.

There may be, and usually is, sterility produced by the operation, from injury to the ejaculatory ducts, which is unavoidable, and with this class of patients, not of much consequence. Many of these old men, however, prefer a "catheter life" rather than the risk of operation, and they do so simply because they are old.

I was, at one time, so unfortunate as to have a patient who relied upon the catheter entirely for twelve years. He was perfectly useless, mentally and physically. Would not hear of an operation, and was never happy

except when he was drunk. Many times he wished fervently that he was dead, and so did I.

Referring to catheters and their uses brings to mind a case in point:

Sometime ago I was called in consultation with Dr. Davis of DeLand to see a man of about sixty, an engine driver, who had had prostatic hypertrophy for several years, and who had been seized with a sudden attack of retention. Dr. Davis informed me that he had entirely failed to pass a catheter, of any kind whatever, and so after repeated attempts, did I, and we were about to aspirate above the pubes, when the patient incidentally remarked that two years before, during a similar attack, his urine had made a false passage and escaped behind the scrotum. We at once investigated and found the fistulous tract, and with very little trouble introduced a small soft rubber catheter through it and into the bladder, draining it thoroughly and leaving it there for a time.

Neither Dr. Davis nor myself had any precedent for a procedure of this kind, but it is well to be enterprising in cases of emergency.

HISTOLOGY OF THE PROSTATE AND BLADDER.*

L. C. Ingram, M. D.,
DeLand, Fla.

The urinary bladder is composed of four coats: serous, muscular, sub-mucous and mucous.

The serous coat is only partial and is a part of the peritoneum. It invests the superior and lateral surfaces and base, being reflected from these surfaces onto the abdominal and pelvic walls.

The muscular coat is composed of unstriped muscular fibres and distributed in three layers. The external arranged longitudinal; the middle circular and the internal with the fibres arranged longitudinal. The outer or thicker layer has at the sides of the bladder the fibres arranged obliquely interlacing with one another. The fibres are thin in the middle coat except at the lower end where they surround the beginning of the urethra where they are in a heavy band. The inner coat is composed of thin layers of fibres.

The submucous coat is a layer of areolar tissue binding together the muscular and mucous coats.

The mucous coat is thin, smooth and of a pale rose color. It is a continuous membrane from kidney to external opening of urethra. The areolar tissue of the submucous coat loosely joins the mucous to the muscular coat.

A transitional variety of epithelium covers the surface of the mucous coat. The superficial layer of polyhedrial flattened cells, each with one, two or three nuclei, covers a stratum of large club-shaped cells containing an oval nucleus. There are no true glands in the mucous membrane of the bladder, though certain mucous follicles which exist especially near the neck of the bladder have been regarded as such.

The prostate is composed of fibrous, muscular and glandular tissue. The gland is enclosed in a thin but firm fibrous capsule.

Muscular tissue constitutes the greater part of the organ, forming the stroma proper and holding in its meshes the glandular tissue. The muscular tissue first surrounds the gland beneath the capsule, hen decussates, forming little meshes through the organ to support the glandular substance.

The glandular substance composes numerous follicular pouches opening into elongated canals, which when united form the excretory ducts. The follicles are held together by areolar tissue and this supported by the prolongations from the fibrous capsule and muscular stroma are all enclosed in a delicate capillary plexus. Columnar epithelium line both the canals and the terminal vesicals.

*Read before the Volusia County Medical Society at Daytona, October, 1917.

PHYSIOLOGY OF THE KIDNEYS.*

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The principal excrementitious fluids discharged from the body are urine, perspiration and bile. They hold in solution principles of waste which are generated during the activity of the nutritive process, and are the ultimate forms to which the organic constituents are reduced in the body. They also contain inorganic salts.

Possibly the most important of this group is urine. The kidneys are the organs for the secretion of urine. They resemble a bean in shape, are from four to five inches in length, two in breadth, and weigh from four to six ounces; are situated in the lumbar region, extending from the eleventh rib to the crest of the illeum.

The kidney is a compound tubular gland composed of microscopical tubules whose function it is to secrete from the blood those waste products which collectively constitute the urine.

The average quantity of the principal constituents excreted in twenty-four hours is as follows: Water, 52 ounces; urea, 512.4 grains; uric acid, 8.5 grains; phosphoric acid, 45 grains; sulphuric acid, 31.11 grains; inorganic salts, 323.25 grains, and magnesia, 6.5 grains.

As the kidney anatomically presents an apparatus for filtration (the malpighian bodies) and an apparatus for secretion (the epithelial cells of the urinary tubules), it might be inferred that the elimination of the constituents of the urine is accomplished by the twofold process of filtration and secretion; that water and highly diffusible inorganic salts simply pass by diffusion through the walls of the blood vessels of the glomerules into the capsule of Muller, while the urea and remaining organic constituents are removed by true secretory action of the renal epithelium. The secretion of urine is, therefore, partly physical and partly vital.

The filtration of urinary constituents from the glomerules into Muller's capsule depends largely upon the blood pressure and the rapidity of blood flow in the renal arteries and glomerules.

Among the influences which increases the pressure and velocity may be mentioned increased frequency and force of the heart action, contraction of the capillary vessels of the body generally, dilatation of the renal artery, and increase in the volume of blood. The reverse conditions lower blood pressure and diminish the secretion of urine.

The fact that organic matters are eliminated by the secretory activity of the renal epithelium seems to be well established by modern experiments. These substances removed from the blood in the secondary capillary plexus of blood vessels by true selective action of the epithelium are dissolved and worked towards the pelvis by the liquid coming from the capsules.

The blood supply to the kidneys is regulated by the nervous system. If the renal nerves be divided, the renal artery dilates and a copious flow of urine takes place. If the peripheral ends of the same nerves be stimulated the artery contracts and the urinary flow ceases. The same is true of the splanchnic nerves, through which the vasor motor nerves pass to the renal plexus. As soon as urine is formed it presses through the tubuli uriniferi into the pelvis of the kidneys, thence through the ureters to the bladder which it enters at an irregular rate. Shortly after a meal, after the injection of a large quantity of fluid, and after exercise, the urine flows into the bladder quite copiously, while it is reduced to a few drops during the interval of digestion.

When the urine has passed into the bladder, it is there retained by the sphincter vesicæ, kept in a state of chronic contraction by the action of a nerve center in the lumbar region of the spinal cord. This center can be inhibited and the sphincter relaxed either reflexly by impressions coming through the sensory nerves from the mucus membrane

*Read before the Volusia County Medical Society at Daytona, October, 1917.

of the bladder, or directly by a voluntary impulse descending the spinal cord. When the desire to urinate is experienced, impressions made upon the vesical sensory nerves are carried to the centers governing the sphincter and detrusor muscles and thence to the brain.

When the bladder is emptied by volition, a voluntary impulse originating in the brain passes down the spinal cord and inhibitis the sphincter vesical center with the effect of relaxing the muscle and stimulating the center governing the detrusor muscle, with the effect of contracting the muscle and expelling the urine. The nerve center controlling these movements is in that portion of the spinal cord corresponding to the origin of the third, fourth and fifth sacral nerves.

CYSTITIS COMPLICATING ENLARGED PROSTATE.*

DEAN T. SMITH, M. D.,

Daytona, Fla.

Usually when considering conditions resulting from enlarged prostate, the hypertrophy that comes with advancing years is what we think of. There may be inflammatory conditions of the prostate that lead to enlargement and cause cystitis, even though the organ may not make marked obstruction to the outflow of urine. These inflammations are usually specific in character, but may be due to other causes. Cancer of the prostate with ulceration may also lead to cystitis.

But the condition I am expected to discuss is, I take it, cystitis following chronic or senile hypertrophy. The enlargement of the gland causes an obstruction at the outlet of the bladder and thus prevents the viscus from completely emptying itself. The condition of residual urine may exist for a long time without causing inflammation of the bladder. Sooner or later, however, chemical changes or bacterial invasion will cause a cystitis.

The chemical changes affect the mucous membrane in two ways. There may develope conditions that will irritate the bladder lining in an individual whose mucous membrane is sensitive, simply by the chemical changes in the residual urine. More frequently, however, the chemical changes result in the formation of stones. These become a source of irritation and cause a form of cystitis. Whether this results without the invasion of bacteria is doubtful.

When cystitis results from an enlarged prostate, it is usually due to bacterial invasion. Sometimes the bacteria are brought to the viscus through blood channels. Some claim the colon bacillus may pass directly through the tissues of the intestine into the bladder. It seems more reasonable to me, if the germs can escape from the intestine, that they would get into the circulation through the capillaries or lymph spaces in the intestinal wall and invade the mucous membrane of the bladder from the capillaries of its wall. Or they may be eliminated via the kidneys and find a hot bed for development in the bladder, where residual urine has weakened resistance and fertilized the tissues for bacterial development.

However, the usual way by which bacteria get into the bladder is by the use of the catheter. Even with due care in sterilization of the catheter and the penis, there are likely to be bacteria in the distal portion of the urethra that are carried into the bladder. Once there the residual urine, as mentioned before, makes a favorable soil for their development.

While we recognize the fact that the cystitis following an enlarged prostate is directly or indirectly due to the obstruction that interferes with the complete emptying of the bladder, I am convinced, from my observation of these cases, that idiosyncrasies of individuals is an important factor. Probably all of us have seen cases with residual urine of long standing in which the catheter had been used without thorough asepsis, and yet without the development of cystitis. Also cases in which stones complicated the pros-

*Read before the Volusia County Medical Society at Daytona, October, 1917.

tate hypertrophy and in which little, if any, inflammatory trouble developed. In other cases, bladder irritation and inflammation were early and prominent symptoms. I call attention to these facts for the reason that many of these patients are not able to have the rational treatment for hypertrophy of the prostate, namely, surgical removal. I believe that general treatment will often raise the resistance and mitigate the suffering.

TREATMENT OF CYSTITIS.*

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Daytona, Fla.

Before entering upon the treatment of cystitis, it is very necessary to examine the urine both chemically and miroscopically and of recognizing the presence of any substances irritating to the vesical mucosa, as oxalate or uric acid crystals.

The removal of any urinary irritation is essential to the speedy cure of the cystitis. Rest in bed is not desirable, especially in cystitis due to venereal causes, and in cases of partial urinary retention it seems to favor rather than lessen pelvic congestion.

Regular daily exercise in the open air, in accordance with the strength of the patient, is to be commended.

The diet must be so regulated that digestion is perfectly performed, for even slight gastric or intestinal disorders render the urine distinctly irritating.

Usually diluent drinks are serviceable, especially at night. Natural mineral waters may be given in accordance with the dyscrasia of the patient. Careful attention should be given the skin — patient should be bathed daily in either hot or cold water as preferred.

The cabinet baths may be used daily if it doesn't produce weakness or debility, being followed by a cool sponging and vigorous friction. I have found the common ordinary sitz bath very efficacious at times in relieving that urgent desire to urinate. Regular evacuation of the bowels must be insisted upon, as rectal obstruction is always followed by the appearance of enormous numbers of colon bacilli in the urine, coming either from the kidneys or through the intervening walls of the bowel. Mild salines, rectal enemas, the nightly ingestion of one ounce of a paraffin oil will usually keep the bowels empty. In treating an acute cystitis of severe form, rest in bed, hot baths, elevation of hips and thorough evacuation of the lower bowel best procured by salines and cold salt-water enemas, are recommended. For the relief of the frequent and painful urination, belladonna and opium suppositories are indicated and should be given every hour or two until pain is relieved.

Hot compresses to the abdomen, changed frequently, help to relieve pain. Diluents and sedatives should be given by mouth. If the urine is strongly acid, copious draughts of water with either citrate or acetate of potassium in ten-grain doses should be given about six times daily. Salol and boric acid should be given to render urine slightly antiseptic. In my hospital work I have had excellent results especially in acute cases of cystitis by placing my patients in bed and irrigating the bladder with a normal salt solution and injecting about two ounces of a ten-to-twenty per cent argyrol solution and insisting upon the patient retaining same as long as possible. I have relieved patients suffering severe pain by this method in from six to twelve hours without any other medication.

*Read before the Volusia County Medical Society at Daytona, October, 1917.

TUBERCULOSIS OF THE BLADDER.*

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This distressing affection usually follows tubercular infection in some other part of the urinary tract and most commonly the kidney is the primary focus, though the tubercle bacilli may reach the bladder from some re-

*Read before the Volusia County Medical Society at Daytona, October, 1917.

mote part of the body via the blood or lymph channels or even from without as the result of cohabitation or catheterization. Traumatism of the bladder or other disease conditions in adjacent tissues seem to make this trouble more frequent. The various pus-producing germs usually find an early entrance to the bladder, thus adding a tuberculous cystitis. The primary lesion is that of the gray tubercle in the mucous membrane surrounded by an area of pink congestion. These are usually seen on the trigone near the mouth of one of the ureters. Later they ulcerate, though usually they are superficial. The ulcers may cover a large portion of the bladder wall, and a certain amount of grandular and scar tissue may occur. Deep or perforating ulcers are rare, though a pericystitis may occasionally be found. Like most forms of cystitis, the principal symptoms are pain, frequent urination and tenesmus, accompanied by hæmaturia in about 20 per cent of the cases. Secondary infection increases the trouble and the greatest amount of pain and frequency of urination is usually found when there is ulceration over the vesical sphincter. Distension of the bladder causes suprapubic pain; during urination it is in the glands, and on completion of the act it is in the neck of the bladder. The urine is usually abundant, of low specific gravity and contains a small amount of albumin and hyaline casts in addition to bladder epithelium and pus. Intestinal nephritis and cystitis from other causes will produce these urinary findings, and as the T. Bacilli cannot usually be found microscpically, we must make the diagnosis by other means than urinalysis. Cystoscopic examination is the best aid to diagnosis when the bladder will tolerate enough water to distend it properly and bleeding is absent or can be stopped long enough to keep the water clear. Much diagnostic aid may be gotten from the inoculation of guinea pigs with suspected urine as well as a thorough examination of the rest of the body in search of a primary focus.

T. B. of the bladder occurs most often between the ages of fifteen and thirty-five. As between T. B. of the bladder and calculus: Frequent urination and pain are marked during the day in calculus, but much better at night, while there is little difference in T. B. of the bladder. Also the radiograph and searcher are useful in cases of stone and guinea pig inoculation in cases of T. B. of the bladder. Bladder tumor produces less distress and later cachexia as a rule, though hæmaturia is more abundant and fragments of tumor may often be found in the urine; stricture and enlarged prostate produce urinary disturbance as a result of obstruction. Stricture produces narrowing of the urethra at one or more points and pain and frequent urination is not so marked as in the tubercular condition. Prostatic enlargment may be felt by rectal examination and produces residual urine, while T. B. cystitis seldom occurs after thirty-five or forty years of age. Prostatic enlargement does not often occur until after fifty years. The general treatment is very much like that of any other tubercular condition: Light woolen clothing, moderate exercise in good weather, and avoidance of draughts. It is best to wear a rubber urinal during the day and have a glass one convenient at night. A simple diet, from which is excluded fried meats, most sweets and all condiments and alcoholic beverages, should be adopted. Guiteras advises 3 grains carbonate creosote T. I. D. and syr. femi iodide 15 m. between meals. Urotropin, salol or sodium benzoate is commonly used as a urinary antiseptic. For the pain tr. belladonna, sodium bromide, codeine or morphine may be needed according to the degree of suffering locally. Four per cent boric acid solution makes a good cleansing wash. Argyrol 10 to 25 per cent may be used, or nitrate silver sol. 1-800 to 1-1000, especially after first using the argyrol solution. Guaiacol 10 c. c. of 50 per cent solution daily, or iodoform emulsion 2 per cent, to be retained in either instance. The various cystotomy operations usually leave the patient worse than at the beginning.

ETIOLOGY AND PATHOLOGY OF CYSTITIS.*

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DeLand, Fla.

Cystitis is an inflammation of the bladder caused by microorganisms. These organisms are principally: the colon bacillus, the urobacillus, bacillus of tuberculosis, or the coccus of gonorrhœa, the streptococcus and the staphylococcus pyogenes. Cystitis, therefore, is to be distinguished from simple hyperæmia in which there is no evidence of infection, and also from frequent urination caused by some irritating substance in the urine or by nervousness.

Cystitis may be latent, when, *e. g.*, a pelvic operation or a confinement forces it into evidence; or acute, when the onset is sudden, the symptoms intense, but the duration short; or chronic, generally the sequel of the acute inflammation. In some cases it is mild, in others intense enough to make life a burden. The affected part of the bladder may be its fundus, but more frequently its posterior wall, or the region of the trigone, and may later spread all over.

The most common source of the infection in cystitis is the urinary catheter introduced at a time when the resisting powers of the patient are reduced by confinement or pelvic operation or other causes. The parts of the urinary canal adjacent to the external orifice of the urethra are normally the habitat of a profuse bacterial flora, especially of the colon bacillus, and an infection which, in normal health would be easily thrown off, cannot be resisted when the powers of the body are lowered.

If no catheter has been used, and the cystitis, even when mild, is of long standing, the suggestion of tubercular kidney is given, as primary tuberculosis of the bladder is rare. In other cases of cystitis the gonococcus is the principal cause of infection, the urine is acid in reaction, but may be alkaline in the presence of the urobacillus, which decomposes urea with the formation of ammonia. Also the typhoid bacillus and the pneumococcus can cause cystitis. Exposure to cold is sometimes considered as a cause, but can at most be so indirectly by lowering the vitality of the tissues and predispose the bladder to the entrance of the bacteria. The germs may reach the bladder through the urethra, or with the urine from the kidneys; also by way of the blood vessels, when, for instance, an infected embolus reaches the bladder, or by way of the lymphatics from adjacent organs as the ovaries and uterus.

The disease usually affects first the mucous membrane of the bladder and after a time may involve the muscular, subserous and even the serous coats.

As seen through the cystoscope, the mucous surface in a case of cystitis is no longer smooth but appears ragged with adherent flakes of lymph, the epithelium becoming eroded. The erosions become deeper, sometimes forming ulcerations. The color is at first bright red, with branching lines which mark the course of the blood vessels. Later the blood oozes through capillary ruptures, and the blood pigment colors the surface slate to black.

In very septic cases the mucous membrane sloughs in patches, and hangs in shreds from the wall. Minute abscesses may form in the muscular layer. The vascular degeneration may lead to fibrous induration and sclerosis of the bladder wall, which becomes thicker, loses its elasticity and contracts the cavity. Thereby it falls in folds which makes the emptying of the bladder difficult, even with a catheter. The spaces between the folds stretch into sac-like dilations without muscular fibres, covered only by the serous membrane, and become filled by stagnant urine. Or, on the other hand, the vascular degeneration may make the bladder wall thin and placid, and the cavity becomes distended to a much greater capacity than normal.

Sometimes when there is intense sepsis and great pressure on the blood vessels, the

*Read before the Volusia County Medical Society at Daytona, October, 1917.

circulation is shut off, gangrene follows, and on the wall of the bladder a false membrane may form, which is thrown off as a coat. The microscope shows such a slough to be an entangled mass of epithelial cells, lymphocytes, urinary salts and microorganisms.

PROPAGANDA FOR REFORM.

ANOTHER SHORTAGE OF SALVARSAN.—The indications are that the supply of salvarsan and neosalvarsan in this country has again reached the point of exhaustion. Congress, which made our patent law, has the power to suspend the patent on any preparation that the patentee is unable to, or does not supply, when such suspension is in the interest of public health, and it should suspend the salvarsan patent. In the meantime it is to be hoped that the Dermatalogic Research Laboratory of Philadelphia will again supply the product as it did during the previous salvarsan shortage. (*Jour. A. M. A.*, March 10, 1917, p. 785.)

BINIODOL.—The Council on Pharmacy and Chemistry reports that Biniodol is claimed by the manufacturer, Charles C. Yarbrough, Memphis, Tenn., to be a solution of 1 per cent mercuric iodid and 2.75 per cent guaiacol in a vegetable oil and that it is marketed with the implication that it is new and superior to other oil solutions of mercuric iodid. The Council found that the claims of novelty and of superiority were not substantiated by the evidence. Clinical investigation did not demonstrate the effects of Biniodol to be different from those of solutions prepared in the A. M. A. Chemical Laboratory, with and without guaiacol. The Council declared Biniodol inadmissible to New and Nonofficial Remedies because claims of superior efficiency were not established, and because it is an unessential modification of an established non-proprietary article marketed under a proprietary name. (*Jour. A. M. A.*, Feb. 24, 1917, p. 650.)

EFFECT OF OPIUM ALKALOIDS ON THE URETERS. — According to D. I. Macht, morphin and the opium alkaloids having a similar constitution, increase the contraction and produce a greater tonicity of the ureter, whereas papaverin and the opium alkaloids, constituted similarly, produce a slowing or total inhibition of the contraction and relaxation of the tonus. In opium and pantopon, which contains the total alkaloids of opium, the effect of the morphin group preponderates. Ureteral colic is due to spasmodic contractions of the ureter caused by the irritating calculus and hence the use of papaverin or opium is more rational than that of morphin. Furthermore, the slighter toxicity of papaverin, its tonus lowering power and its local analgesic properties suggest its local application in spasmodic conditions of the ureter. (*Jour. A. M. A.*, March 3, 1917, p. 719.)

DATING OF BIOLOGIC PRODUCTS.—For the protection of the consumer as well as the manufacturer, the Council on Pharmacy and Chemistry has adopted a rule requiring that serums and vaccines and similar products to be accepted for New and Nonofficial Remedies must bear on each package the date of its manufacture in addition to the date required by federal law. The practice now followed by manufacturers of placing on the containers of biologic products the date beyond which these agents are not to be regarded as dependable (though in accordance with the federal law) has not been satisfactory. Except for diphtheria and tetanus and antitoxin, in general there are no methods for determining the potency of serums and vaccines. At the present time, for the same material, one manufacturer will fix an expiration date of four months, others one year or even eighteen months. Obviously this lack of uniformity is unfair to the manufacturer who endeavors to supply a product as fresh as is commercially practicable and it also may lead the physician to form a false opinion regarding the potency of certain biologic products. The new rule of the Council will enable the physician to know the age of a given prod-

uct when it reaches him and will permit him to judge whether or not it has been kept unduly long. Moreover, it will prove not only helpful to the conscientious manufacturer and the physician but will also safeguard the patient. (*Jour. A. M. A.*, March 3, 1917, p. 728.)

Ichthytar.—The Council on Pharmacy and Chemistry reports that Ichthytar was submitted by the Szel Import and Export Company with the claim that it was essentially similar to ichthyol in composition and superior to it in therapeutic properties. The statements that were submitted regarding its composition made it impossible to determine whether or not it was similar to or identical with ichthyol. No evidence was furnished in regard to its therapeutic value. On the basis of the available information the Council held the claims regarding composition and therapeutic value unsubstantiated and ichthytar ineligible for New and Nonofficial Remedies. (*Jour. A. M. A.*, March 10, 1917, p. 796.)

More Misbranded Nostrums.—The following "patent medicines" were found misbranded under the U. S. Food and Drugs Act chiefly because false and fraudulent therapeutic claims were made for them: Collins' Ague Remedy, admittedly containing 33 1/3 per cent alcohol. Swaim's Panacea, containing nearly 5 per cent alcohol, 58.5 per cent sugar, 0.1 per cent salicylic acid and some sarsaparilla. Swayne's Panacea, essentially the same as Swaim's Panacea in composition. Croxone, capsules containing a white pill and a red oil; the oil was oil of pine or oil of juniper dissolved in a fatty oil, while the pill consisted essentially or strychnine, a trace of brucine, aloin, hexamethylenamin, lithium carbonate, potassium nitrate and probably a trace of atropin. Freeman's Balsam of Fir Wafers, lozenges consisting of sugar with very small amounts of oil of turpentine and eucalyptus with the possible presence of balsam of fir. Renne's Pain Killing Oil, essentially a water-alcohol solution of sassafras oil and cayenne pepper containing 78.6 per cent alcohol and 4 per cent volatile oils and possibly a little mustard oil and soap. Schuh's Yellow Injection, an aqueous solution of boric acid, carbolic acid and berberin. Schuh's White Mixture, a mixture of mucilage of tragacanth, balsam of copaiba, and probably sandalwood oil, flavored with cassia. Elmore's R'eumatine Goutaline, apparently a dilute tincture of colchicum. Armstrong's Croup Ointment, containing eucalyptus and traces of other oils, possibly cassia and thyme. Anticephalalgine, containing 30 per cent alcohol and 4 grains acetanilid to the ounce, sodium bromid, sodium salicylate, caffein and antipyrin. Wright's Rheumatic Remedy, an emulsion composed principally of turpentine, methyl salicylate, sugar, acacia and water, with probably some resinous or plant extractive matter. H. G. C., a watery solution of borax and berberin sulphate. Russel's White Drops, containing 13 to 16 per cent of alcohol as well as codein. Pneumovita, a sweetened gum, containing small amounts of charcoal and iron phosphate having a wintergreen flavor. Mecca Compound, an ointment containing carbolic acid, camphor, borates, zinc compound, sodium soap in a soft paraffin base. Best Cough Remedy, a spearmint syrup containing alcohol, chloroform and morphin. Stella-Vitæ, a female weakness remedy. Vegetable Pulmonary Balsam, a syrup flavored with spearmint, sassafras, containing alcohol and opium. (*Jour. A. M. A.*, Feb. 17, 1917, p. 565 to 566; Feb. 24, 1917, p. 651.)

The Willard Pyorrhea Treatment.—After defrauding the public of amounts estimated by the federal investigators at $75,000 a year by means of a fake cure of pyorrhea, F. W. Willard, M. D., D. D. S., has been denied the use of the United States mails. The business of the Willard concern, apparently owned by Oren Oneal, consisted of a mail-order plan of a so-called home treatment for pyorrhea or Riggs' disease. (*Jour. A. M. A.*, Feb. 10, 1917, p. 477.)

The Journal of the Florida Medical Association

Owned and published by the Florida Medical Association.

Published monthly at St. Augustine and Jacksonville. Price, $1.50 per year; 15 cents per single number.
Contributions for publication in this journal, whether scientific papers or reports of County Secretaries, should be typewritten.
Address Journal of the Florida Medical Association, St. Augustine, Flortda, or P. O. Box 136, Jacksonville, Fla., U. S. A.

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Next Meeting —— Tampa —— May, 1918

VOLUSIA COUNTY MEDICAL SOCIETY.

The Volusia County Medical Society has gone a long way in solving the problem dealing with the lack of interest in the average county organization. In a society of from ten to thirty members, the work can be made most interesting and highly profitable and fascinating by the adoption of the symposium method in dealing with subjects at each meeting. In preparing for these meetings the president selects the subject best adapted to each member for his part in the work and every man presents a written paper on a particular phase of the matter. If the member cannot be present, his paper is read by the secretary. Each member has some part aside from the rich discussion which follows in each meeting, and the discussion does not become involved in matters concerning other subjects as is often the case when no definite program is followed. These papers are short (usually five minutes), are terse and are supposed to contain "the meat" of the subject.

For the second time the present number of THE JOURNAL is given over largely to just one meeting of the society which was held in DeLand November 8th. The symposium was devoted to cystitis. A review of these articles will show the study beginning with the anatomy of the bladder and ending with the modern treatment of cystitis. The papers are rich in practical suggestions and show that the author of each paper has taken some time to look up his subject. It has been found that the study course suggested by the A. M. A. is not practical in small societies with towns twenty-five miles apart, and this method has proven after two years trial most valuable under conditions of this sort. Obstetrical subjects, fevers, senility, neurasthenia, the heart and almost any subject can be profitably studied in this way. Last year at Daytona and in Ormond your state secretary was present in two of these meetings and can strongly endorse the method. Members obliged to be absent express themselves as deploring their loss.

Occasionally a prominent man from the larger centers is invited to address the society and lead in the symposium with a slightly longer paper. This man is selected because he is a specialist on the subject to be discussed. Members suggest material for future work and there is no lack of it. We would strongly commend this method to all societies in the state, large or small, for a thorough trial, and we believe its general adoption outside the state would be most profitable.

F. J. W.

EVERY DOCTOR IN THE MEDICAL RESERVE CORPS.

What an ideal situation it would be, if every doctor in the United States who is mentally, physically and morally fit, was in this Corps.

The time is coming, and in the immediate future, when the Medical Reserve Corps of the Army must be immensely augmented, and so as to enable the Surgeon General to have at his command for immediate assignment, as conditions demand, a sufficient number of trained medical officers, let us take the above thought seriously.

We all know, from past history, the conserving value of an efficient medical corps, and this means number, as well as training.

A statement made by one high in authority in the Surgeon General's office, "that our fighting forces would be disseminated by sickness and casualties in six months, were it not for an efficient army Medical Corps," clearly emphasizes the importance of every doctor in the United States, meeting the requirements above referred to, accepting a commission in the Medical Reserve Corps of the United States Army.

The struggle in which we are now engaged, and for which we are preparing to take such a prominent part, depends for its success as much upon the medical profession as it does upon our combatant forces, and while we do not know that any such intention as herein suggested is in the mind of the Surgeon General, it would at least give him the necessary Corps of medical officers upon which to draw, and thus serve the best interests of our country, and the best interests of the medical officer serving.

HAMSTRINGING THE ARMY.

The forces arrayed against scientific medicine are many and various. They range from the honest but deluded crank with an obsession through the various cults and 'pathies to the downright quacks and medical fakers. The American Medical Association as representative of scientific medicine in this country has, naturally enough, been the target for many of the verbal poison-gas attacks made by these different interests. In general, the Association and the profession have ignored such outbursts, for in many instances one of the obvious objects of the attackers has been to obtain, through a reply, a publicity they could never get through the avenues normally open to them. In this matter, as in many others, war brings about changed conditions. Vilifying scientific medicine in times of peace was a matter that affected chiefly only the physician, and he, knowing its source, ignored it. With the entry of our country into war, medicine, in common with other sciences, was called on to do its "bit" in successfully prosecuting the gigantic task the nation had undertaken. How well it has responded we will leave others to say. The facts are that the lives and health of the hundreds of thousands of young Americans who form the new National Army have been entrusted to the care of the representatives of scientific medicine.

During the past few months there has been an especially virulent effort on the part of the opponents of modern medical science to discredit that science in the eyes of the American public. Not only has it been openly charged that the physicians in the Army are incompetent to care for the health of the soldiers, but the villainous accusation has also been made that much of the sickness in the camps is the result of the prophylactic

inoculations given the men at the time they entrain. These charges, of course, emanate chiefly from ignoramuses of the "drugless healer" type. Such a campaign may be counted on not only to weaken the confidence of the American public in the medical department of the Army, but also to arouse unfounded suspicions in the very integrity of the military organization.

These thoughts are suggested by a recent article appearing in the *Los Angeles Times*. While the advertising pages of the *Times* are a notorious haven for quackery, the paper generally is supposed to have some influence. One of the departments of the Sunday editions of the *Times* is entitled "Care of the Body," and is conducted by one Brook who calls himself a "Doctor of Naturopathy." It would probably be difficult to put in the same space more misinformation regarding the human body and its processes than Brook manages to condense into his "department." The *Times* seems to have two obsessions, an undying hatred of labor unions and a deep-seated antipathy to the medical profession and medical science. This may explain why its alleged "health department" is turned over to a quack who also advertises his trade in the same paper.

In the *Times* for December 16, Brook suggests, both directly and by inference, that the cases of measles and pneumonia that have occurred in the various Army camps are "in part at least * * * due to the fact that their [the soldiers'] blood has been poisoned with injections of diseased animal matter * * * " In the same article Brook denies that medicine has progressed since the days of Hippocrates; he declares that "all disease has one cause, the accumulation of waste matter in the blood, due to surplus by-products of food"; that epidemics "occur when atmospheric conditions are favorable to them"; that "tertiary syphilis is mainly due to mercurial poisoning"; that physicians "of the regular school do not understand disease"; that pathogenic bacteria are never the cause, but always the result, of disease; that "the percentage of deaths from diphtheria is as large as it ever was"; that the "increase in cancer is attributed by some medical men to the general use of serums"—and so on *ad nauseam*.

The article can have only a pernicious and disquieting effect, not alone on the soldiers themselves, but also on their families and friends. Had the *Times* falsely charged that our soldiers were being sent to fight Germany armed only with old-fashioned muskets or blunderbusses; or had it charged that the warships of the United States Navy are so obsolete and old-fashioned as to imperil the lives of our sailors, that paper would have played into the hands of our enemy no more effectively than it does when it spreads broadcast ignorant slanders regarding the efficiency of modern medical science and attempts to discredit the modern physician and challenge the value of the service rendered by the Army Medical Corps.

If modern medical science is a pretense and a sham, if inoculations against typhoid and smallpox are mere dangerous fads, if the health and lives of our brothers and sons who have been called to the colors are not in safe hands, then, in the name of common sense let us abolish the medical department of the Army and substitute instead a corps of chiropractors, naturopaths, mental healers and what-not in its place. If, on the other hand, the value and effectiveness of antityphoid inoculation and vaccination have been demonstrated and if everything is being done that modern science can do for the health of the Army, then those sheets that are attempting to disseminate falsehood to undermine the morale, not only of the Army, but of the public, and in other ways give aid and comfort to the enemy, should be promptly suppressed by the government.—*Jour. A. M. A.*, January 5, 1918.

IT IS NOT NECESSARY TO FORWARD YOUR APPLICATION BLANK FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, U. S. ARMY, TO THE SURGEON GENERAL. PRESENT IT, TOGETHER WITH THE OTHER PAPERS REQUIRED BY REGULATIONS, TO THE EXAMINING BOARD AT THE TIME YOU APPEAR FOR EXAMINATION.

APPLICATION FOR APPOINTMENT
IN THE
MEDICAL RESERVE CORPS, U. S. ARMY

.....

....., 191.....

To the SURGEON GENERAL, U. S. Army,
Washington, D. C.

Sir:

I hereby make application to be examined for appointment in the Medical Reserve Corps, U. S. Army, and inclose testimonials as to my character and habits.*

I certify that to the best of my knowledge and belief I am laboring under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required of me if appointed in the Medical Reserve Corps, U. S. Army, and that the answers given to the interrogatories below are true and correct in every respect.

I furthermore state my willingness to proceed to such point for examination as may be designated by the Surgeon General, with the understanding that the journey entailed thereby must be made at my own expense.

INTERROGATORIES.

1. What is your name in full (including your full middle name)?.....
.....
2. What was the date of your birth?.....
3. Where were you born? (Give State and city or county; if foreign born, give country.....
.....
4. When and where were you naturalized? (For applicants of alien birth only.).....
.....
5. Are you married or single?..... 6. Have you any minor children; if so, how many?.....
7. What is your height, in inches?..... 8. Your weight, in pounds?.....
9. Give the nature and dates of all serious sicknesses and injuries which you have suffered?.....
.....
10. If either parent or brother or sister has died, state cause and age in each case:.....
.....
11. Do you use intoxicating liquors or narcotics; if so, to what extent?.....
12. Have you found your health or habits to interfere with your success in civil life?.....
13. What academy, high school, college, or university have you attended? State periods of attendance from year to year, and whether you were graduated, giving date or dates of graduation:
.....
.....
14. Name any other educational advantages you have had, such as private tuition, foreign travel, etc.:
.....
15. Give all literary or scientific degrees you have taken, if any, names of institutions granting them, and dates:.....
.....
16. With what ancient or modern languages or branches of science are you acquainted?.....
.....

*Testimonials as to character and habits from at least two reputable persons must accompany this application. Political recommendations are not necessary.

17. How many courses of lectures have you attended?..... Names of colleges and dates:
.....

18. When and where were you graduated in medicine? .....

19. Have you been before a State examining board? If so, state when, where and with what result: * .....

20. Are you a member of any State medical society? If so, give its name:.....
.....

21. Have you had service in a hospital? If so, state where and in what capacity, giving inclusive dates of each kind of service:.....
.....

22. What clinical experience have you had in dispensary or private practice?.....

23. Have you paid particular attention to any specialty in medicine; if so, what branch?.....

24. What opportunities for instruction or practice in operative surgery have you had?.....
.....

25. Have you previously been an applicant for entry into the United States service? If so, state when, where, and with what result (if rejected state why): .....
.....

26. Are you a member of the organized militia? If so, state with what organization and in what capacity: .....

27. Have you been in the military or naval service of the United States as cadet or otherwise? If so, give inclusive dates of service with each organization, designating it:.....
.....

28. What occupation, if any, have you followed other than that of student or practitioner?.....
.....

29. What is your present post-office address?.....

30. What is your permanent residence?.....

31. (Signature of applicant.).....

32. The correctness of all the statements made above was subscribed and sworn to by the applicant before me this.....day of....., 191.....

.....

.....

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*This application must be accompanied by a certificate from the proper official that the applicant is duly registered to practice medicine in the State in which he resides.

FORM 149
W. D., S. G. O.
(Revised May 3, 1917)

APPLICATION FOR EXAMINATION FOR APPOINTMENT IN THE MEDICAL RESERVE CORPS, U. S. ARMY.

.....Inclosures.

OUR HONOR ROLL.

Our Honor Roll as published below now constitutes a grand total of one hundred and forty-four physicians. They are divided in the services as follows: Medical Corps—Lieutenant Colonel, 1; Medical Reserve Corps—Majors, 6; Captains, 27; 1st Lieutenants, 96; total, 130. United States Navy—Passed Assistant Surgeons, 2; Assistant Surgeons, 3; total, 5. National Guard United States (Fla.)—Majors, 3; Captain, 1; 1st Lieutenants, 5; total, 9. The list is gradually becoming complete; we urge all to help us maintain it in a thorough manner.

MEDICAL CORPS, U. S. ARMY.

Home Address.

Lieut.-Colonel Joseph Y. Porter.....Key West

MEDICAL OFFICERS' RESERVE CORPS.

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Major John E. Boyd .....Jacksonville
Major Frederick G. Barfield.....Jacksonville
Major Chauncey L. Chase .....Fort Dade
Major Harry Peyton .....Jacksonville
Major Raymond C. Turck .....Jacksonville
Captain E. G. Birge .....Jacksonville
Captain H. O. Black .....Jacksonville
Captain Andrew R. Bond .....Tampa
Captain Stanley Erwin .....Jacksonville
Captain Albert H. Freeman .....Starke
Captain James B. Griffin .....St. Augustine
Captain J. Halton .....Sarasota
Captain Henry Hanson .....Jacksonville
Captain H. H. Harris .....Jacksonville
Captain Maurice E. Heck.....St. Augustine
Captain Graham E. Henson .....Jacksonville
Captain Frederick E. Jenkins .....Palatka
Captain Owen H. Kenan .....Palm Beach
Captain S. M. R. Kennedy.....Pensacola
Captain Frank R. Maura .....Ojus
Captain William W. Mills .....Miami
Captain William B. Moon .....Lakeland
Captain Frederick C. Moor .....Tallahassee
Captain John MacDiarmid .....DeLand
Captain John D. McRae.....Tampa
Captain D. W. McMillan .....Pensacola
Captain Thomas A. Neal.....Sanford
Captain James B. Parramore.....Jacksonville
Captain James D. Pasco .....Jacksonville
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Captain M. B. Swift .....Orlando
Captain Harry F. Watt .....Ocala
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1st Lieut. Daniel M. Adams .....Panama City
1st Lieut. Allen M. Ames .....Pensacola
1st Lieut. C. A. Andrews .....Tampa
1st Lieut. Harold M. Beardall.....Orlando
1st Lieut. Henry P. Bevis.....Arcadia
1st Lieut. James H. Bickerstaff .....Pensacola
1st Lieut. Everard Blackshear .....Citra
1st Lieut. Louis B. Bouchelle .....DeLand
1st Lieut. John T. Bradshaw.....San Antonio
1st Lieut. Percy H. Brigham .....Branford
1st Lieut. Herbert L. Bryans .....Pensacola
1st Lieut. B. A. Burks.....Titusville
1st Lieut. Fay A. Cameron .....Tampa
1st Lieut. T. Z. Cason .....Jacksonville
1st Lieut. Chauncey L. Chase .....Fort Dade
1st Lieut. Joseph H. Chiles .....Cleremont
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1st Lieut. Orin O. Feaster .....Mulberry
1st Lieut. Necy L. Gachet .....Century
1st Lieut. Harry C. Galey.....Key West
1st Lieut. Julian Gammon .....Jacksonville
1st Lieut. Claude V. Gautier.....Passagrille
1st Lieut. Hugh St. C. Geiger.....Kissimmee
1st Lieut. H. M. Ginsberg .....Pensacola
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1st Lieut. William H. Pickett.....Gainesville
1st Lieut. Marion E. Quina .....Pensacola
1st Lieut. Shaler A. Richardson .....Jacksonville
1st Lieut. Dwight M. Rivers.....Lake City
1st Lieut. E. T. Sellers .....Jacksonville
1st Lieut. George W. Sherouse .....Campville

1st Lieut. E. E. Strickland .....Miccosukie
1st Lieut. Baldwin S. Stutts .....Port St. Joe
1st Lieut. G. C. Tillman .....Gainesville
1st Lieut. W. J. Vinson .....Tarpon Springs
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1st Lieut. B. L. Whitten .....Fort Pierce
1st Lieut. John M. Whitfield .....Malone
1st Lieut. William E. Whitlock.....Fort White
1st Lieut. Charlton C. Whittle .....Nocatee
1st Lieut. Daniel B. Williams .....Lake City
1st Lieut. Albert H. Wilhienson.....Jacksonville

THE NAVY.

Passed Assistant Surgeon W. P. Dey..Jacksonville
Assistant Surgeon Thomas S. Field....Jacksonville
Assistant Surgeon Boyd Gilbert.....Pensacola
Passed Asst. Surgeon J. Knox Simpson, Jacksonville
Assistant Surgeon D. C. Thompson.....Pensacola

NATIONAL GUARD UNITED STATES (FLA.).

Major Lorin Green .....Jacksonville
Major Ralph Green .....Jacksonville
Major James H. Livingston .....Jacksonville
Captain W. J. Buck .....Gainesville
1st Lieut. Daniel C. Campbell.....Marianna
1st Lieut. John R. Hawkins .....Williston
1st Lieut. Z. V. Johnson .....Milton
1st Lieut. Lucien B. Mitchell .....Tampa
1st Lieut. J. M. Mitchell .....Millville

TEN YEARS OF THE FOOD AND DRUGS ACT.

Ten years of enforcement of the Food and Drugs Act of June 30, 1906, are reviewed in the current annual report of the Bureau of Chemistry, United States Department of Agriculture, which says that the act's chief contributions to the safety of the people's health have been its corrective effect upon the drug and patent medicine industry, its control of trade in unclean milk, polluted, decomposed or filthy foods, and protection of foodstuffs from contamination with poisons likely to be met in manufacture.

The general effect of the Food and Drugs Act may best be estimated, says the report, by considering its effect upon food and drug control by the States; upon development of the food and drug industries and by the principal abuses that have been corrected. But to illustrate the scope of the work through figures and facts the report points out that more than 6,000 prosecutions have been terminated in the courts in the first decade of the Act; that manufacturers have been cited at hearings more than 40,000 times, that many thousands of factory inspections have been made, and that more than 750,000 shipments of domestic or imported food and drugs have been examined.

Special attention has been given to shipments of polluted or spoiled food. Milk shipped in interstate commerce and imported from Canada has been improved in cleanliness, purity, and the condition of sanitation under which produced. The canning of decomposed navy beans has been largely suppressed. Interstate shipment of oysters from polluted waters has practically ceased. Because of cooperation with State and municipal officials in controlling the shipment of bad eggs, it is reported that the quality of the eggs reaching the large cities is much improved. Other products in whose handling and sale improvement has been noted include mineral water, tomato products, fruit, vinegar and gelatin.

States Cooperate with Federal Laws.

One consequence of the enactment of the Food and Drugs Act was to encourage similar legislation in many of the States, the purpose of which is to control local traffic in food and drugs which, since no interstate commerce is involved, are not subject to the Federal law. For example, in 1906, many States had no feeding stuffs laws. A State could not prosecute a manufacturer unless he were a citizen of that State. The Federal law supplements the State law in this respect and now most of the States have similar laws.

In the beginning the confusion and apparent conflict between local and Federal laws and administration of laws not only made it difficult for the two sets of officials to cooperate, but often made it necessary for manufacturers to make special preparations for shipment to certain States at extra cost, the extra cost being passed on to the ultimate consumer. This evil has been remedied to a considerable extent by the organization of two agencies which, in large measure, have removed some of the difficulties arising from the conflict of Federal and State jurisdiction. These agencies are (1) The Joint Committee on Definitions and Standards and (2)

The Office of Cooperative State and Federal Food and Drug Control.

Development in Food and Drug Industries.

The Food and Drugs Act was one of the first laws which today would be classed as laws for the prevention of unfair competition. The report says that the suppression of fraud upon the consumer and of unfair competition among business rivals are "but the two faces of the same coin." In consequence the food industries are sincerely and actively helping the Bureau of Chemistry to enforce the law.

Frequently, the report says, the Bureau is appealed to by the industries to compel the cessation of unfair practices and to encourage the standardization of the products, when the industry is incapable by itself of bringing about these results. The Act is described as one of the influences which have helped to draw competitors together into association like the guilds of the middle ages, although the modern associations lack the special privileges which the ancient guilds often enjoyed.

Some of the associations, understanding the value of constructive work, now devote considerable money to experimental research into technical problems. Thus is made available to the small manufacturer scientific assistance ordinarily beyond his reach. Since the Bureau of Chemistry always has regarded it as its duty not merely to report violations of the law but also to prevent accidental violations, through constructive work in tending to improve methods of manufacture, it cooperatives actively with such associations of manufacturers. Such cooperation, by the various Government agencies, says the report, is bound to exert the profoundest influence on the country's industrial and social development.

Abuses Corrected by Law.

The best evidence, according to the report, that many of the abuses formerly occurring in the food industry have ceased is found in the fact that the violations of the Food and Drugs Act observed today are hardly comparable, in degree, with those in the first few years following the enactment of the law.

Most of the staple-food products now found in violation either are of a higher grade than formerly or are products of clever adulterators who have more or less anticipated detection so that the adulterations have been found only by the most painstaking chemical analyses and factory inspection.

Consequently there has been a decided change in the direction of the work. In recent years it has developed quite noticeably in the direction of factory sanitation; of the study of spoilage and decomposition of foodstuffs and of improvement through laboratory research of methods of detecting the more refined types of adulteration.

COMMON SODAWATER GLASS MUST GO THE WAY OF PUBLIC DRINKING CUP.

The public drinking cup was found guilty of causing so many epidemics that it was long ago abolished in nearly every State. But until recently little or nothing has been done to curb the dangerous tendencies of the sodawater glass, which has even greater possibilities for evil than the common cup. A soda glass may be used by many different persons, and the nature of the mixtures it contains makes it a much more favorable breeding place for germs than a cup used only for water, says the *New York American.*

An examination under the microscope of one carelessly washed sodawater glass revealed in the thick coating of filth which covered it both inside and outside more than 20,000 decaying human cells and bits of dead skin. Clinging to a single one of these cells there were counted 150 disease germs. The total germ population of the glass was estimated at 3,000,000, representing a dozen serious diseases.

Dr. Tanza, of the United States Public Health Service, believes that the dirty soda fountain has a great deal to answer for in connection with the spread of tuberculosis. He has frequently seen men and women in

the advanced stages of consumption drinking at soda fountains where no effort was made to cleanse the glasses and other utensils beyond a hurried rinsing in standing water.

Children are most seriously menaced by the dirty fountain because they are so fond of sodawater and ice cream and because their powers of resistance to disease are not yet well developed. Science is sure that there is no more certain way of exposing boys and girls to a wide variety of serious diseases than by letting them spend their nickels at soda fountains which fail to sterilize their glasses and take other sanitary precautions.

In the attempt to abolish the dirty soda fountain it is not sufficient to insist merely upon the equipment necessary to give sanitary service. The best equipped fountains are often the most unsanitary, on account of the indolence and ignorance of their employees. What seems to be needed are stringent regulations for safeguarding the health of patrons of soda fountains in every possible way, with severe penalties to the proprietors as well as to the clerks for neglect.

PATENT MEDICINE LABELS MUST SPEAK TRULY.

Ten years ago there was no ailment to which human flesh is heir that some maker of patent medicines did not claim to be able to cure with such ease that it seemed almost the height of foolishness not to part with the price for his nostrums.

Today, because of the operation of the Federal Food and Drugs Act, the extravagant promises of cure that characterized the labeling of the patent medicines of ten years ago have practically disappeared from the preparations that enter interstate commerce. They may, however, still be found in newspaper and other advertisements that are not subject to the act. The "pure food law," as it is known, is concerned only with the package as it is shipped in interstate commerce. If one questions the truth of a newspaper advertisement of a patent medicine, let him read the label on the carton or bottle at the corner drug store. The latter will come nearer telling the truth about the medicine.

Misbrandings, in regard to healing value of hundreds of alleged cancer cures, so-called "cures" for coughs, colds, consumption, kidney diseases, epilepsy, St. Vitus dance, and the like, have been corrected. This is told in the annual report of the Bureau of Chemistry, United States Department of Agriculture, which reviews the operation of the Food and Drugs Act in the safeguarding of the health of the American people.

The law requires the labels of patent medicines to declare the presence of any habit-forming drug, such as opium, cocaine, or alcohol, thus preventing the innocent development of the drug habit. This provision of the law is particularly valuable in warning mothers against the use of socalled infant soothing syrups containing opium.

When the act went into effect, drug addiction was so prevalent that frauds in the treatment of the victims were frequent and in most instances the remedy advertised so forcefully by the labels contained the very drug from which escape was desired.

In 1907 the Bureau of Chemistry found that thirty soft drinks contained small amounts of cocaine. Practically all of these were suppressed. The Food and Drugs Act is regarded as having been an important factor in bringing about passage of the Harrison Anti-Narcotic law, which more effectively controls habit-forming narcotics.

Much has been done, the report says, to control the indiscriminate use of so-called headache remedies containing dangerous, depressing drugs, and of dangerous cosmetics making claim to healing value; and in raising the quality of the supply of crude drugs through the examination of imports. As a result of cooperative work with the Postoffice Department, a number of fraud orders were issued by the department preventing the use of the mails in promoting the sale of fraudulent medicines.

TRADE COMMISSION ACTS ON SALVARSAN PATENT.

The Federal Trade Commission today entered orders for licenses to three firms to manufacture and sell the product heretofore known under the trade names of "Salvarsan," "606," "Arsenobenzol," "Arsaminol," patent rights which have been held by German subjects. The orders for licenses are subject to acceptance and agreement by the licensees to the stipulations made by the commission. Upon such acceptance and agreement, licenses Nos. 1, 2 and 3 will be formally granted by Secretary L. L. Bracken, acting for the commission.

Hereafter, this important drug will be manufactured and sold under the name of "Arsphenamine."

The Trade Commission's action was taken under Section 10 of the Trading With the Enemy Act, under direction of Commissioner Fort, upon recommendation of C. H. McDonald, Edward S. Rogers and Francis Phelps, in charge of granting such licenses. The Public Health Service has prepared rules and standards for the manufacture and testing of "Arsphenamine," and will supervise its manufacture, authority having been conferred on the Public Health Service by the Secretary of the Treasury, and the observance of the rules and standards become a condition of the license.

The three firms which will be hereby permitted to manufacture and sell "Arsphenamine" are Dermatological Research Laboratories, of Philadelphia; Takamine Laboratory, Inc., of New York, and Farbwerke Hoechst Company (Herman A. Metz Laboratory), of New York. The original patent for manufacture of what has heretofore been known as "Salvarsan," etc., was issued to Paul Ehrlich and Alfred Bertheim, German subjects, and assigned to Farbwerke Vormals Meister, Lucius and Druning of Hoechst on the Main, Germany.

The supply of the drug now licensed to be made in America, up to 1915, was almost exclusively obtained by importation from Germany. It is at present the only known specific for virulent blood poison. From the outbreak of the war importation became more difficult.

Before the war began, the patented drug was sold at $4.00 per dose, which is approximately $3,500 per pound, and speculatively it has brought as high as $35.00 per dose. While the price of the product is not fixed at this time by the commission, the right to fix prices is retained, and a price of $1.00 per dose to the Army and Navy, $1.25 per dose for hospitals, and $1.50 per dose for physicians, are the prices at which some, at least, of the licensees have stated that they intend to offer the licensed drug.

The enormous shortage of supply on this important product will immediately be relieved, and the article placed in the hands of the Government, the hospitals and the medical profession at a price lower than ever before.

DEATH CERTIFICATES.

More accurate and definite statements of the occupations of decedents should be written upon death certificates. Until this is done mortality statistics by occupations will continue to be unsatisfactory.

The Bureau of the Census is planning for the near future a monograph on tuberculosis. How much more valuable this monograph will be if it is possible to show accurately the occupations of decedents.

As a physician you appreciate the importance of such statistics. As a physician you are by education better qualified than the ordinary informant to understand a proper statement of occupation.

Will you not, therefore, take pains to see that the occupation items upon each one of your death certificates are properly supplied?

America will deserve to lose this war if, through unwillingness to practice small economies, it fails to save the food necessary to keep our allies in the fight until victory is won.

Cancer Department

"In the early treatment of cancer lies the hope of cure"

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

MAGAZINE COOPERATION.

Through the cooperation of Mr. Dudley Harmon, Manager of the Washington Bureau of the *Ladies' Home Journal,* the following paragraph on the work of the Cancer Society was published on the "Keeping Up With the Times" page of the May issue of the magazine:

"THE TRUTH ABOUT CANCER."

"There are some people in this country who have made it their task to give the public the facts about cancer, its symptoms, treatment and cure. They have formed the American Society for the Control of Cancer, at 25 West Forty-fifth Street, New York, which is supported by most eminent men of science and the medical profession. The Society does not give medical advice or treatment, but it will help anyone to know about one of the greatest scourges of mankind and how it may be combated."

About seven hundred inquiries for information and advice, which are directly traceable to this small insertion, have been received at the headquarters office of the Society and even now, after the lapse of many months since the publication of the paragraph, occasional inquiries are received from small towns and villages where the old number of the *Journal* is still being read.

The requests for information represent all parts of the country and illustrate very forcibly the need of the campaign for cancer education. They come from physicians, nurses, and social workers who want the literature and instruction for use in connection with their work and from patients, or those fearing cancer for themselves, their friends or families. One woman, writing for advice regarding the recognition of the warning signs of the disease, adds: "I surely want to know in time, and not wait too late as did my sister." And another, telling of her care of her mother who had recently died of cancer, writes "I wish, with all my heart, to know enough so that no other member of my family need die of cancer through any ignorance on the subject."

Appreciating the remarkable interest aroused by this bid for correspondence made through the *Journal,* the Society has recently sought the cooperation of other women's magazines of large circulation, and in this effort has met with the most welcome promises of help. An article has lately been accepted for early publication by the *Woman's Home Companion.* Another has just been prepared and submitted, upon invitation, to the *Woman's Magazine. The Designer,* contemplating a new series of health articles, has indicated its willingness to include an early paper on cancer, and the Society has been assured that *McCall's Magazine* will provide instruction on this topic in the health department it plans to install shortly in its publication.

In addition to this, Dr. C. E. Terry, Health Editor of *The Delineator,* is considering the idea of running a series of articles dealing with the various phases of the cancer problem in subsequent numbers of that magazine. This method of presenting the subject in a lay periodical has not been employed heretofore, and the educational results of such a series, if conducted, will be followed with much interest.

Carefully prepared articles, designed to invite correspondence with the Cancer Society, afford a very unusual opportunity for our organization to serve the individual, and it is with a due appreciation of the value of the cooperation on the part of the magazines that this acknowledgment is made.

PUBLIC HEALTH NURSING.

The following letter is self-explanatory and is published for the benefit of all interested. It appears to THE JOURNAL that the points brought out in this letter are well taken, and that the matter is one which should receive the serious consideration of the profession:

THE NATIONAL ORGANIZATION FOR
PUBLIC HEALTH NURSING,
600 Lexington Avenue,
New York.

October 20, 1917.

Dr. Graham E. Henson, Secretary,
Florida Medical Association,
Jacksonville, Fla.

DEAR DR. HENSON—Public health nurses have greatly increased during the past few years. Hundreds, perhaps thousands of small towns and rural communities as well as large cities have come to regard them as indispensable community servants. Their service represents at least a minimum of skilled nursing which can usually be supplemented with safety by family, neighbors or trained attendants. They also stand as much for the protection of health as for the care of the sick. Their value as health agents is now pretty generally recognized by health officers, school boards, and manufacturers as well as by the public itself.

Because their work is largely preventive, one of their chief values is that they persuade many people to call upon their doctor before an illness has become serious enough to have convinced them that it was necessary to consult him. Nevertheless, their opportunities as health teachers most often depend upon and follow their entrèe to the homes in time of need due to illness. They are very dependent upon the local physicians because it is an invariable rule that no visiting or public health nurse shall perform any treatment nor administer any medicine, nor even make repeated calls upon a patient except with the consent and direction of the family physician.

Oftentimes these facts are not understood by country doctors and consequently they refuse to call for the nurses' assistance and even discourage their patients and their families from doing so. This situation is becoming less and less frequent but still exists in some localities and among some doctors.

More than ever, these nurses will be needed now that so many physicians are being called to military duty and yet they can not serve the people unless the doctors who remain at home will recognize and call upon them.

The members of the National Organization for Public Health Nursing, among whom are many Red Cross Town and Country Nurses, have instructed me to bring this matter to the attention of the State Medical Associations in the hope that they will see fit to urge heir county societies to interpret the work of public health nurses to their members to clear away the misunderstandings which are now in some places preventing the best and fullest use of public health nurses and to encourage employment of their services.

Representative women in this field will welcome opportunities to discuss the subjects before state or local associations.

Sincerely yours,
ELLA PHILLIPS CRANDALL,
Executive Secretary.

CHILDREN IN WAR-TIME.

War work for babies which resulted in lowering the infant death rate in Great Britain, France, Belgium, and Germany is described by Dr. Grace L. Meigs of the Children's Bureau of the U. S. Department of Labor in a paper on Infant Welfare Work in War-Time which the bureau has just made available for general distribution.

The special features of the work have varied in the different countries. In England there has been a striking increase in the number of health visitors employed to help and to instruct mothers in the care of

their babies and young children. An act providing for Government aid to local agencies had, as it happened, been passed in July, 1914:

"The Local Government Board (the central supervising and administrative body) has taken the stand that in war-time, in spite of the general need for economy, no economy should be exercised in this direction. There is evidence that in a good many communities, on account of lack of money and private support, the authorities or voluntary agencies have been slow to increase their work or to undertake new work. These difficulties the Local Government Board has largely overcome. It has gone on with the greatest determination towards its acknowledged goal—to have systematic supervision through the work of health visitors for all babies born who need care."

The available information for Germany concerns only the first eighteen months of the war. Dr. Meigs refers to the emphasis placed on enabling mothers to care for their own children. A special committee of the Red Cross, for example, was organized in Berlin for the care of mothers and infants. The committee had a fund for needy mothers which it used for those mothers who brought their babies regularly to an infant-welfare station and who took care of them in their own homes.

The outstanding feature of the work in Paris seems to be the increased provision for maternity care; and in Belgium, the establishment of canteens for the feeding of mothers and of young children.

Dr. Meigs speaks of the important part played by the military separation allowances which are granted by foreign Governments to the wives of enlisted men, either, as in Great Britain and Canada, to the wives of all soldiers or, as in France and Germany, to the wives who are in need because the family's wage earner has been called to the colors.

Furthermore, in each of these countries except Belgium a maternity benefit from Government funds, provided before the war to certain mothers, has now been extended to include either the wives of all enlisted men or all women who are receiving the military separation allowance.

Dr. Meigs bases on the experience of these countries the following practical war-time suggestions for the United States:

The chief preventive measure for protecting babies is to insure their intelligent care and nursing by healthy mothers in their own homes.

Nothing should be considered more important in war-time than the strengthening and extending of preventive work already established for infant and maternal welfare. The disorganization of such work through the loss of physicians and nurses especially trained for it should be avoided if possible.

Every effort should be made to enlist a large number of candidates for hospital training courses.

HOME-CANNED FOOD SAFE.

No Need to Fear Botulism in Properly Prepared Products.

The United States Department of Agriculture today issued the following statement prepared by the bacteriologists of its Bureau of Chemistry and the States Relations Service:

"There is no danger that the type of food poisoning known as 'Botulism' will result from eating fruits or vegetables which have been canned by any of the methods recommended by the United States Department of Agriculture, provided such directions have been followed carefully. It is possible that in a number of instances the directions were not strictly followed and that spoilage has occurred. Of course, extreme care should be taken to ascertain before eating canned goods of any kind whether they are in good condition, and if they have spoiled, they should not be consumed.

"In case of any doubt as to whether the contents of a particular can have spoiled, the safest plan is to throw it away, although all

danger of Botulism may be avoided by boiling the contents of the can for a few minutes, since the *Bacillus botulinus* and the toxin or poison which it produces are killed by such treatment. No canned food of any kind which shows any signs of spoilage should ever be eaten. In the cold pack method of canning given out by the Department of Agriculture, only fresh vegetables are recommended for canning and sterilization is accomplished by the following processes: cleansing, blanching, cold dipping, packing in clean, hot jars, adding boiling water, sealing immediately, and then sterilizing the sealed jars at a minimum temperature of 212 degrees Fahrenheit for one to four hours, according to the character of the material. Since the spores of *B. botulinus* are killed by heating for one hour at 175 degrees Fahrenheit (according to Jordan's "Bacteriology" and other recognized textbooks), there is no reason to believe that the *botulinus* organism will survive such treatment."

THE INCREASING MENACE OF LOBAR PNEUMONIA.

Insurance Statistics Show Marked Rise in the Death Rate.

Lobar Pneumonia today causes more deaths than any of the other acute infectious diseases. This is clearly shown in a report recently prepared by the Metropolitan Life Insurance Company on its mortality experience covering the last six years. During this period there occurred nearly thirty-eight thousand deaths from lobar pneumonia among the Industrial policyholders of this company.

Pneumonia Death Rate Increasing.

The death rate from lobar pneumonia is not showing improvement from year to year as is the case with most of the other infectious diseases. The year 1916 was an especially bad one for this disease, the rate having increased very perceptibly over the preceding four years. The very severe grippe epidemic which prevailed in 1916 may have had some bearing upon this result.

Pneumonia More Prevalent Among Colored Than Among White Persons—Mortality Higher Among Males Than Among Females.

Although prevalent at the early ages, lobar pneumonia is not essentially a disease of early childhood. When it does occur in young children, it is very frequently fatal. The disease reaps its greatest harvest at the ages over 65. At these ages it is one of the chief causes of death. The insurance figures, furthermore, show that the colored people have a much higher mortality rate than is found for the whites. This is true for both sexes and for every period of age. Pneumonia has a higher death rate for the male sex than for the female.

Cases of Pneumonia Should Be Reported and Quarantined.

In view of these facts it is clear that a vigorous public health campaign must be directed by communities against the ravages of lobar pneumonia. Some health departments have already taken a forward step in declaring lobar pneumonia a reportable disease, like measles and scarlet fever, requiring visitation by the health departments to insure quarantine. This is a new idea for most people. There are, undoubtedly, millions of persons in the country who would not go into a house where there was measles, scarlet fever, whooping-cough or diphtheria, but who would not hesitate to go into a sick room where there was a case of acute lobar pneumonia. Nevertheless, the best medical authorities have shown that this disease is extremely infectious, and that those who are stricken with it have a worse chance of recovering than if they had any of the infectious diseases mentioned.

More states and cities should require that physicians report every case of lobar pneumonia and must enforce this requirement. Communities can also help by checking the nasty habit of spitting in public places, which

is probably the most fruitful method of spreading the germ of pneumonia.

The form of pneumonia known as bronchopneumonia is also a serious factor in the death rate, especially of young children; but must not be confused with the infectious disease which health departments are now taking steps to quarantine.

BIG INCREASE IN NUMBER KILLED BY AUTOMOBILES.

Insurance Study Shows Increasing Menace of the Automobile. Children the Main Victims.

The startling fact that the death rate from automobile accidents has more than tripled since 1911 is disclosed by a study of the deaths among the Industrial policy-holders of the Metropolitan Life Insurance Company. In 1911 the death rate from this cause was 2.3 per 100,000; in 1916 it had increased to 7.4. During this period the rate for each year was markedly higher than the rate for the year before, and that for 1916 showed an increase of more than 37 per cent over the figure for 1915.

Nearly One-third of Those Killed Are Children Under Ten Years of Age.

The steadily climbing death rate from automobile accidents among the families of the country's wage-earners is due, very largely, to fatalities among little children. This investigation has developed the fact that of the 2,507 policy-holders who were killed by automobiles during the six years, 1911-1916, no less than 790, or about 32 per cent, were children under ten years of age, and 1,125, or over 44 per cent, were children under fifteen years of age. Unless something is done to check automobile fatalities, the time is approaching when the automobile as an instrument of death among children will become as serious and dreaded a factor as some of the deadly epidemic diseases upon which the attention of health authorities has long been centered. There has been in recent years a marked decrease in the death rate from such diseases as measles, scarlet fever, whooping-cough and diphtheria, but the rate for automobile accidents (surely as preventable a cause of death as any of these) is increasing by leaps and bounds.

Mortality Caused by Automobiles and by Other Vehicles Compared.

Another condition developed by this study is the fact that as far as the industrial subway trains, elevated trains, bicycles and horse-drawn vehicles combined. Indeed, in 1916 the 756 deaths caused by automobiles approaches very closely the 799 persons insured in the company killed on steam railroads.

The figures for Metropolitan policyholders, it must be borne in mind, represent, almost exclusively, pedestrians, rather than those who ride in the machines. This is particularly true of the children. A large part of this mortality, it is evident, is due to reckless driving and to the heedlessness of children to the dangers to which they expose themselves. But whatever be the cause, it is clear from these figures that the automobile is an important agency of death and that its control by the communities must be immediate and thorough if improvement is to be made.

SUICIDE MORTALITY AMONG WAGE EARNERS IN THE UNITED STATES.

Insurance Figures Show Marked Improvement During 1916.

The Metropolitan Life Insurance Company has recently completed a study of suicide as a cause of death among the industrial policy-holders of the company. According to this study, there has been a marked decrease in the death rate from suicide during the last few years. Among four million insured white males the number of suicides in 1916 was 620, or 15.3 per 100,000. In 1915, the rate was 19.6 per 100,000. The most frequent form of suicide among these

white males was by firearms (31%). Among nearly five million white female policy-holders, there were 308 suicides in 1916, or 6.3 deaths per 100,000 insured. In 1915 the rate was 7.5 per 100,000. Poisoning was the most usual method of suicide among the white females—more than one-third having been so accomplished.

Negroes Show Lower Suicide Rates Than White Persons.

The death rate from suicide among negro males is a little over one-half as high as among white. In 1916 the rate was 8.2 per 100,000 insured. Negro females show the very lowest rates of any of the groups studied. The rate was 3.4 per 100,000 in 1916, the total number of suicides being only 22 among over 650,000 insured colored women.

Suicide More Prevalent Among Men Than Women.

The figures show that suicide is more than twice as frequent as a cause of death among males than among females. This is true at all periods of life except at the ages 15 to 19. It is remarkable that the change from youth to adult life should disturb the mental life of females so much more than that of males. The same conditions are found to prevail among the white and the colored races. After early adolescence, the white female suicide rate remains practically stationary, never varying very much from about 11 per 100,000. On the other hand, the white male suicide rate increases with each age period. The rate is highest at the ages 65 to 74, when it is over 80 per 100,000. Suicide is then a very common cause of death, nearly five times as prevalent as at the age period 20 to 24.

Suicide Among Wage Earners and the General Population Compared.

Among both white male and female policy-holders of the company, under 25 years of age, the suicide death rates are lower than those recorded among males and females in the general population of the Registration Area of the United States. For each age period after 25, the suicide rate of insured males is slightly higher than for the male population at large. White females insured in the company, however, show a lower rate than females in the general population throughout life.

If the suicide rate is an indication of the mental health of the people, it would appear from these figures that the housewives of the industrial families of the country are the best balanced of all. Their husbands are not quite so well favored.

WAR PRICES DEPRIVING BABIES OF MILK.

Decreases reported from New York and Chicago and New England cities in the amount of milk now being consumed by families with young children have led the Federal Children's Bureau to emphasize its imperative necessity in the diet of babies and young children.

Dr. Grace L. Meigs, the Director of the Bureau's Child Hygiene Division, in commenting on the danger of such a decrease to the health of children today, said, "Milk is the one food that all young children must have if they are to be strong and healthy. Whole milk is rich in the elements without which the child's growth ceases and his health is impaired; indeed there is no food which can supply as well the needs of the growing child.

"There is no substitute for milk in the diet of babies and young children. Yet the increase in its price is so startling that, as the reports the Bureau receives show, many mothers are economizing on milk. Young children can not get the nourishment they require from the would-be milk substitutes given them. Patent foods which do not themselves contain milk and are not intended to be mixed with milk are so lacking in the essentials of healthy development that we must expect children fed on them instead of on milk to be weakly and ailing. Plainly very great harm is done young children by

giving them tea and coffee to take the place of milk which is really a complete food; it is giving them mere stimulants to replace their best food."

Since the price of milk went up to 14 cents a quart, tea and coffee have been substituted for milk by more than half of the 2,200 families — all with children under six — included in the study of the effect of the increased price of milk just made in New York City by the Mayor's Committee on Milk, the City Department of Health and the Association for improving the Condition of the Poor. One hundred and twenty families have stopped taking milk entirely, in 25 of these there are babies under one year old. All the 2,200 families have young children, but nearly half are taking from one-fourth to one-half less milk than before the price went up. Yet even before the larger price decreased the amount of milk they bought these families were getting but little more than half the amount of milk which experts on children's diets say they need.

In Chicago as well as New York the rise in the price of milk has forced down the amount purchased. A dealer there reports that while he distributed on an average 4,000 quarts of milk a day in September, on October 3 with the price increased, he distributed only 2,500 quarts.

In New Haven, Bridgeport and other Connecticut towns milk delivered at the station is sold wholesale at 8 cents a quart. It retails as high as 15 cents a quart. In Waterbury, when the price was raised from 12 to 15 cents a quart the sale was so greatly reduced that the price has been dropped back to 14 cents.

THE AMERICAN REVIEW OF TUBERCULOSIS.

Within nine months the *American Review of Tuberculosis* has made for itself a unique place in medical circles throughout the United States and in almost all parts of the world. Few specialized journals have received a more cordial welcome than this one has, as evidenced by its rapidly increasing subscription list. The large number of medical men who are interested in the treatment and prevention of tuberculosis gives the Review an unusually extensive field.

The *American Review of Tuberculosis*, however, has an appeal also to those who are not directly interested in this disease, that is to the internists, to the laboratory men, and even to the surgeons who are specializing in related fields. Tuberculosis has many ramifications and is so intimately bound up with the practice of all physicians that this journal should find a ready place in the library of every man who wishes to keep himself posted for his own best interests and those of his patients.

The *Review* aims to be not only a clearing house for the best American thought and production in relation to the clinical, pathological and sociological phases of tuberculosis, but it aims at the same time to stimulate renewed interest on the part of those who are already working in this field and to arouse interest on the part of the general practitioners to whom tuberculosis does not make a very ready appeal. It is not a propaganda journal, but it does frankly aim to be educational, as every good medical journal should do.

Its editorial staff, headed by so well-known an authority as Dr. Edward R. Baldwin, of Saranac Lake, for so long an associate of Dr. Trudeau, and containing the names of men of such national and international prominence as Dr. Lawrason Brown, Saranac Lake, N. Y.; Dr. H. R. M. Landis, Philadelphia, Pa.; Dr. Paul Lewis, Philadelphia, Pa.; Dr. M. J. Rosenau, Boston, Mass.; Dr. Henry Sewall, Denver, Colo.; Dr. B. S. Veeder, St. Louis, Mo., and Dr. Allen K. Krause, Baltimore, Md., assures those who subscribe to this publication an unusually high grade of material. The further fact that the journal is published by the National Association for the Study and Prevention of Tuberculosis vouches for its standing and gives added assurance to its future.

The backing of the National Association for the Study and Prevention of Tuberculosis also makes it possible for the publishers to furnish the *Review* at so moderate a price as $3.00 which, to those who know anything about the cost of production of such publications, will readily appear as less than the cost of production. We are glad to recommend the *American Review of Tuberculosis* to our readers and urge them to add it to their subscription lists. Subscriptions should be sent to the New York office at 105 East 22d Street, New York City.

FAMINE, PRUSSIA'S ALLY.

Seven years ago a famous European student of history prophesied that the next great war would be won, not by fighting, but by famine. We are today fighting that war —and famine is hovering.

The men of England, Scotland, Ireland, France, Italy, Belgium—our allies — are fighting; they are not on the farms. The yield of their land is therefore cut down. Always they had to import much that they ate, drawing the shortage from many other countries as well as from America. Now that their shortage is worse than ever, there is little or none to be had from these other sources. They must be fed from America. Our allies, therefore, depend on us for food as never before and they ask for it with a right they never had before. For today they are doing the fighting, the suffering and the dying—in our war.

We *must* send them the food for their necessities. We *will* send it. But we can do it only by a wise and loyal economy of food on the part of every one of us. We must stimulate our food production, organize our food handling, eliminate all waste, use largely other foodstuffs for wheat, beef, pork, dairy products and sugar, and reduce consumption wherever it is in excess.

To gain these results is the task of the United States Food Administration. It can be done only by joining in one effort the willing service of all the people in the land. To that end, every man, woman and child is asked to be a member of the Food Administration. No fees, nor dues—just a promise to help. The week of October 28 will be devoted to the nation-wide enrollment of all earnestly loyal Americans in the movement to win the war by making sure that our allies are not weakened and defeated by lack of food.

WHOLESOMENESS AND ECONOMY.

The nation is at war. To protect our rights we must have an efficient fighting machine. The men must be given wholesome and nutritious food in sufficient quantity. The stupendous character of the conflict necessitates rigid economy of both men and material. Nothing is economy that renders food less wholesome, but there is no excuse for catering to prejudice at an increased cost. We shall need all our dollars before this war is over. We must secure for our soldiers the most wholesome food at the least cost.

Our governmental departments are subject to criticism by the whole country and it would not be surprising if they catered to known prejudices in order to avoid annoying criticism. But in time of war we must be governed by scientific facts and not by prejudice. Big interests whose advantage lies in the support of a prejudice may criticize, but our leaders must be big enough to practice economy in spite of such unjust criticism. That economy will be practiced and that scientific facts and not prejudice will guide the Government in the selection of wholesome foods is clearly indicated by recent actions by the Department of the Interior, the Army, and the Navy. All these departments have recognized the findings of the Referee Board of Scientific Experts who found that alum baking powders were as healthful as any other baking powders. These departments have recently purchased large quantities of alum phosphate baking powders. This is the type which was furnished our soldiers on the Mexican

border and subsequently to our sailors, and which proved so satisfactory. The people of the United States have recognized the wholesomeness and economy of this type of baking powder for years. Eighty per cent of the baking powder used in the United States contains alum. Its wholesomeness is unquestioned. Its economy is marked. Not only are alum powders generally much stronger, so strong that the manufacturers recommend the use of only half the quantity called for by high-priced baking powders, but the price of the powder pound for pound is but half as much. This means that the use of one pound of phosphate alum powder at 25 cents does the work of two pounds of the other powders costing one dollar. The saving is 75 cents. War prices would have no terrors if we could make an equal saving on all our foods by substituting something equally wholesome, twice as effective and at half the price.

Reviews from Current Literature

OSTEOCHRONDITIS

Blanchard, Wallace: Treated and Untreated Osteochronditis Juvenilis of the Hip. Jour. A. M. A., Vol. LXIX, No. 13, p. 1060.

"Perthes' disease, or osteochronditis juvenilis of the hip, results in far more extensive bone atrophy than has been supposed. The bone atrophy and rarefication are so extensive that they have changed our previous conception of the pathology of the disease.

"Up to the present time, the only joint and bone changes recognized in Perthes' disease have been a partial or total destruction of the head of the femur with a stumping of the neck, together with a thinning of the femoral shaft. Most authors have agreed with the unsustained suggestion, made by Freiburg at the last session of the association, that the disease is caused by tonsillitis or some other local infection. Experiments have been made on animals by Allison to determine what influence a slight injury or displacement to the epiphysis might have on the hip, and his results were negative."

The whole pelvis, when studied on the side involved shows atrophic changes. If untreated, it goes on to marked erosion on the femur and permanent deformity.

"The author has been unable to find in any of his cases a tonsillar or other infection."

The disease is chiefly confused with tuberculosis of the hip and its chief difference is its ready response to treatment and many cases of cured tubercular hips were actually that of Perthes' disease.

His conclusions:

"1. Osteochronditis deformans juvenilis seems to be a nutritional disease of the bones and muscles of the hip and leg.

"2. The femoral head that continues in functional use during the acute stage of the disease becomes obliterated wholly or in part by the attrition of the weight bearing on softened bone.

"3. The head of the femur that is mechanically protected throughout the acute stage of the disease suffers only the same atrophic changes of the adjacent bones.

"4. In convalescence, the destroyed head redevelops rapidly under mechanical protection, and redevelops more slowly and less perfectly without protection.

"5. The disease progresses with one year of bone and muscle atrophy and lessened density, followed by several years of increasing density and redevelopment.

"6. The bone hardening resembles the eburnation after rickets.

"7. From the foregoing facts it may be inferred that this disease of growing bone is nutritional in character, and is due to a blood circulation that is disturbed from a median pelvic line to the foot, and that the head and neck of the femur are only incidentally affected.

"8. The question of etiology remains of chief interest." L. W. C.

THE WASSERMANN TEST

Smith, J. Wheeler, Jr., and MacNeal, W. J.: Comparative Study of Different Antigens and of Different Temperatures of Incubation in the Wassermann Test. The Journal of Infectious Diseases, Vol. XXI, September, 1917, p. 233.

The authors present the results of the examination of 501 specimens from 457 patients, using for each three different antigens and two temperatures.

The antigens used were cholesterin reinforced, simple alcoholic extract of beef heart and an acetone insoluble fraction of beef heart. The temperatures were 37 degrees C. for 30 minutes and 8 degrees C. for four hours to fix the complement.

The series was divided into groups of patients as follows:

Group I—Syphilitic	80
Group II*a*—Evidently syphilitic	24
Group II*b*—Probably syphilitic	20
Group II*c*—Probably not syphilitic	16
Group III—Non-syphilitic	317
	457

The percentage of positive findings from the 124 patients certainly or prabably syphilitic, groups I, II*a* and II*b*, follows:

Cholesterinized at 37 degrees C.	65.3
Simple at 37 degrees C.	37.5
Acetone Insoluble at 37 degrees C.	46.5
Cholesterinized at 8 degrees C.	83.3
Simple at 8 degrees C.	73.6
Acetone insoluble at 8 degrees C.	60.4

The percentage of negative findings of the 333 non-syphilitic patients, groups II*c* and III, were:

Cholesterinized at 37 degrees C.	97.
Simple at 37 degrees C.	100.
Acetone insoluble at 37 degrees C.	100.
Cholesterinized at 8 degrees C.	97.8
Simple at 8 degrees C.	100.
Acetone insoluble at 8 degrees C.	100.

The whole article is so well summed up in their conclusions that they are given in full:

"1. The use of the cholesterinized antigen, with the first incubation, at 8 C., for 4 hours, constitutes a more sensitive test for syphilis than does any of the other methods examined.

"2. The colesterinized antigen, both at 37 C. and at 8 C. is apt to yield nonspecific complement-fixation. Therefore, in a diagnostic reaction, fixation with the cholesterinized antigen alone is, at best, of only doubtful significance.

"3. The simple extract antigen, with the first incubation at 8 C. is more sensitive than the cholesterinized antigen at 37 C. and in this series it did not give any false positive reactions, according to the available evidence.

"4. The acetone insoluble preparation, made according to the method of Noguchi, is less sensitive, either at 37 C. or at 8 C. than is the cholesterin-reinforced antigen at either temperature, and is also less sensitive than the simple extract at 8 C. It is more sensitive than the simple extract at 37 C. and, in this series, has, according to the available evidence, given no false positive reactions." B. L. A.

"Nostrums for Kidney Disease and Diabetes."—Prepared and issued by The Propaganda Department of *The Journal of the American Medical Association*. 47 pages; deals with 34 nostrums; illustrated. American Medical Association, 535 North Dearborn St., Chicago. Paper, 10 cents postpaid.

This is the latest pamphlet issued by The Propaganda Department of *The Journal of the American Medical Association* as part of its work in giving the medical profession and the public the facts regarding different phases of the nostrum evil and quackery. Nostrums for kidney disease and diabetes are grouped together in one pamphlet, not because there is any essential relation between diabetes and kidney disease, but because the average quack makes no distinction between the two conditions and recommends his nostrum indiscriminately for both. It is not necessary to tell physicians that drugs will not cure either kidney disease or diabetes but it is necessary to apprise the public of this fact. Whatever justification there may be for the sale of home remedies for self-treatment, there is no excuse, either moral or economic, for selling preparations recommended for the self-treatment of such serious conditions as

diabetes and kidney disease. Every "patent medicine" sold for the cure of these diseases is potentially dangerous and inherently vicious. The pamphlet is an interesting and instructive one to put in the hands of the layman.

NEW AND NONOFFICIAL REMEDIES.

THORIUM NITRATE.—A white substance, very soluble in water and alcohol. Soluble thorium salts resemble alum in their local astringent and irritant properties. They are not absorbed from the alimentary canal. The non-precipitant double salts of thorium are practically non-toxic, even intravenously. Thorium salts are fairly radioactive.

THORIUM SODIUM CITRATE SOLUTION.—Prepared by dissolving thorium nitrate, 10 gm., and sodium sitrate, 15 gm., in water, neutralizing with sodium hydroxide and diluting to 100 c. c. Being impervious to Roentgen rays, the solution is used to obtain cystograms of the renal pelvis and urinary bladder.

THORIUM SOLUTION FOR PYELOGRAPHY—H. W. and D., 10 per cent.—It is the same as thorium citrate solution. Prepared by Hynson, Westcott & Dunning, Baltimore, Md.

Publishcr's Notes

WORK WITH HOOVER AND SERVE OAT FOODS.

"Wheatless Meal" a Patriotic Duty—Oats High in Energy Value and Low in Price.

To sustain our Allies and our own army abroad, it is necessary for this country to ship to Europe 200,000,000 bushels of wheat the coming year, in place of a normal shipment of 80,000,000 bushels. That is why Herbert Hoover says we must eliminate waste of bread and must have one "Wheatless meal" each day. It is impossible to view this matter as other than a patriotic duty.

Yet the domestic housewife must look to the matter of serving nourishing meals.

An excellent food to consider as a flavory, nutritious, and easily prepared substitute for bread is oats, either in the form of oatmeal or oatmeal biscuits. As a food that imparts vim, energy, and endurance, oats have long been recognized as supreme. And in the form in which they can in these days be procured for table use, they excel nearly every other grain food in flavor and ease of preparation.

Again, oats have advanced little in price, whereas nearly all other foods have soared. Prices on Quaker Oats—the product of the Quaker Oats Company of Chicago—for example, have advanced, on the smaller package only, from 10 cents to 12 cents, and on the large, only from 25 cents to 30 cents. Most other foods, for the same nutrition cost from twice to ten times as much. Even so simple a diet as bread and milk, for the same nutrition, today costs twice as much as oatmeal. The average mixed diet costs four times as much.

It has been estimated by food experts that oats, to the extent that they are used in place of other foods, on the table, represent a lower cost by 75 per cent, on the average, than what they take the place of.

A few specific comparisons may be interesting to the reader:

Per unit of nutrition, bacon and eggs cost five times as much as oatmeal; steak and potatoes cost five times as much; chicken costs six times as much, the average mixed diet four times as much.

In view of the critical food situation and the comparatively low cost of this superior food, the housewife, it appears, would do well to serve oats more often.